We claim:

1. A hydrogenation catalyst of the general formula AB(y)C(z) wherein A is a support comprising of a salt of a Group II A metal or zeolite, B is a noble metal selected from Pt or Pd, y = 0.2 to 10 %, C is nickel and z = 0 to 15.0 %, with the proviso that when B is Pt, z = 0.
2. A process for the preparation of a hydrogenation catalyst of the general formula AB(y)C(z) wherein A is a support comprising of a salt of a Group II A metal or zeolite, B is a noble metal selected from Pd or Pt, y = 0.2 to 10 %, C is nickel and z = 0 to 15.0 %, with the proviso that when B is Pt, z = 0, said process comprising:

i. dissolving a noble metal precursor in a mineral acid by stirring at a temperature in the range between 60°C to 120°C;
ii. diluting the above solution by adding water;
iii. adjusting the pH of the solution to the range of 8 – 12 by adding a base;
iv. adding a support to the above solution;
v. heating the mixture to a temperature in the range of 60°C to 120°C;
vi. reducing the above mixture using a conventional reducing agent;
vii. separating the catalyst formed by any conventional method;
viii. washing and drying the product to obtain the catalyst.

3. A process as claimed in claim 2 wherein the catalyst obtained at the end of step viii is mixed with a solution of nickel in a basic medium having a pH in the range of 8 – 12; stirred for about 1 hour; the catalyst formed is separated by any conventional method; dried at about 150°C up to 10 hours in static air; reduced at a temperature in the range of between 390 - 420°C for a time period in the range of between 5 – 12 hours in a flow of hydrogen; the product being separated, washed and dried to obtain the catalyst.
4. A process as claimed in claim 2 wherein the noble metal source is a salt of a noble metal selected from the group consisting of acetate, bromide, and chloride of and the source of nickel is a salt of nickel selected from the group consisting of acetate, carbonate, chloride and nitrate.
5. A process as claimed in claim 2 wherein the support is a salt of a Group II A metal selected from the group consisting of acetates, nitrates, chlorides and

carbonates of magnesium, calcium and barium and the source of zeolite is NH_4-ZSM5.

6. A process as claimed in claim 2 wherein the base used is selected from the group consisting of sodium carbonate, potassium carbonate, potassium hydroxide, and sodium hydroxide.
7. A process as claimed in claim 2 wherein the reducing agent used is selected from the group consisting of hydrazine hydrate, hydrogen containing gas, and formaldehyde.
8. A process as claimed in claim 2 wherein A is a support comprising of a salt of a Group II A metal, B is platinum and y = 0.2 to 10 %, said process comprising:

i. dissolving a platinum precursor in a mineral acid by stirring at a temperature in the range between 60°C to 120°C;
ii. diluting the above solution by adding water;
iii. adjusting the pH of the solution to the range of 8 – 12 by adding a base;
iv. adding a support to the above solution;
v. heating the mixture to a temperature in the range of 60°C to 120°C;
vi. reducing the above mixture using a conventional reducing agent;
vii. separating the catalyst formed by any conventional method;
viii. washing and drying the product to obtain the desired catalyst.

9. A process for the preparation of 1, 4 butenediol from 1, 4 butynediol said process comprising subjecting the 1,4 butynediol to hydrogenation by any conventional method characterised in that the catalyst used for the hydrogenation is of the general formula AB(y)C(z) wherein A is a support comprising of a salt of a Group II A metal, B is a noble metal selected from Pd and Pt, y = 0.2 to 10 %, C is nickel and z = 0 to 15.0 % with the proviso that when B is Pt, z = 0.
10. A process as claimed in claim 8 wherein the selectivity of the process at milder process conditions is 100 %.
11. Use of a novel hydrogenation catalyst of the general formula AB(y)C(z) wherein A is a support comprising of a salt of a Group II A metal or zeolite, B is a noble metal selected from Pd and Pt, y = 0.2 to 10 %, C is nickel and z = 0 to 15.0 % with the proviso that when B is Pt, z = 0, for the preparation of 1,4 butenediol from 1, 4 butynediol.